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BREECH MECHANISM FOR ORDNANCE

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Fig. 1.

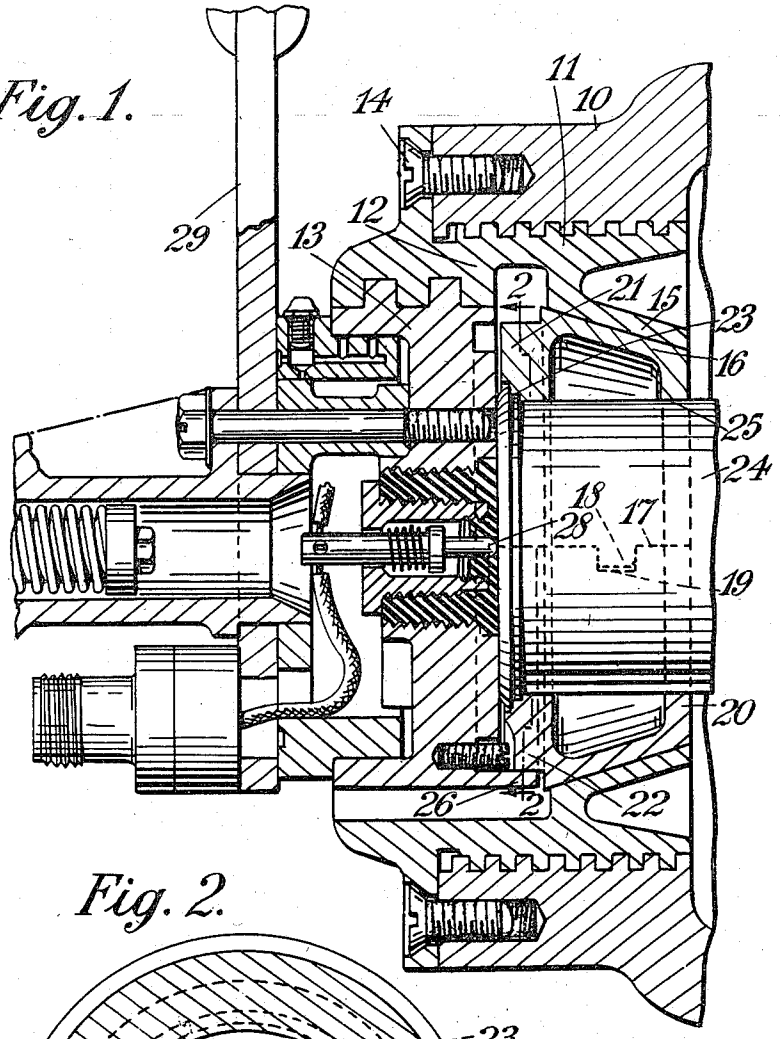
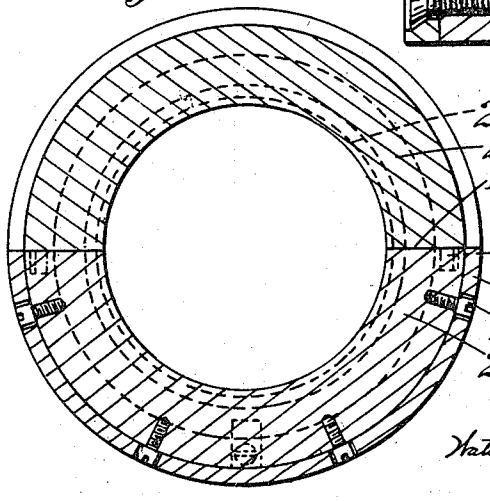


Fig. 2.



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BREECH MECHANISM FOR ORDNANCE

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2 Claims. (Cl. 89—20)

This invention is for improvements in or relating to breech mechanism for ordnance and the like and is concerned more particularly with the means for supporting the cartridge case in its firing position.

One of the difficulties with ordnance and the like, is that after firing, the cartridge case may be so damaged or distorted that its withdrawal is rendered difficult, and it is an object of this invention to overcome this difficulty.

According to this invention, in a breech mechanism for ordnance having a cartridge holder, the cartridge holder comprises a sleeve or collar which receives the cartridge within it, which sleeve is divided longitudinally into two or more parts and is removable from the breech which is shaped to fit it and is retained therein by a breech block.

The sleeve may be provided with an external conical surface and the breech may be provided with a conical seating to receive the sleeve.

One part of the sleeve may be secured to a part of the breech block in order to facilitate removal of the sleeve from the seating.

The sleeve may be provided with two internal flanges spaced apart for supporting said cartridge.

If desired, the sleeve may be of such a length as to receive within it the whole length of the cartridge case. The above construction renders it possible to use such metal as steel for the cartridge case instead of the more expensive brass which has so far been found to be the only satisfactory material.

The invention is of particular advantage in that type of breech mechanism in which the cartridge case, when inserted in its firing position, extends into a combustion chamber which does not provide support for the whole length of the wall of the cartridge case. In this instance, the aforesaid sleeve supports the rear end of the cartridge case only. An example of this type of breech occurs in torpedo-firing apparatus where the cartridge case is inserted into a combustion chamber separate from the torpedo tube, the gases passing from this chamber into the rear end of the torpedo tube to eject the torpedo. With mechanism of this kind it is frequently found that the cartridge case is so damaged that it cannot be withdrawn, but according to the present invention the cartridge case is supported in the sleeve in the breech, as above described, and when the sleeve is withdrawn its parts can be removed from the cartridge case since it is divided longitudinally.

The following is a description of the invention as applied to a cartridge holder for a torpedo tube, reference being made to the accompanying drawing, in which:

Figure 1 is a longitudinal section through the breech end of the combustion chamber, and

Figure 2 is a section on the line 2—2 of Figure 1.

The breech end of the explosion chamber 10 of the torpedo tube is screw-threaded at 11 to receive a socket member 12 for the breech block 13, the holder being additionally secured by set screws 14. The socket member is formed with an internal conical seating 15 for accommodating the cartridge holder 16 which latter is divided longitudinally at 17. In order that the two halves may be readily registered, tongues 18 are formed on opposite sides of the upper half and are arranged to engage sockets 19 in the lower half 20. The rear ends of the two halves are provided with flanges 21 and 22 which are directed radially inwards and are recessed in their outer faces to receive the rim 23 of the cartridge 24. The cartridge is supported in the holder by the internal faces of the flanges 21 and 22 and by a flange 25 at the other end of the holder. The lower of the two flanges 22 is encircled by a cylindrical rim 26 formed on the lower part of the breech block 13 and the flange 22 is secured to this rim by set screws 27 as shown in Figure 2. Thus, the cartridge holder 16 and cartridge may be withdrawn with the breech block whereafter the upper half of the holder may be removed, thus freeing the cartridge. Instead of securing one part of the cartridge holder 16 to the breech block 13 the flanges 21 and 22 may be so shaped as to provide a gap between them and the socket member 12 into which a suitable extracting tool may be inserted. The breech block 13 is provided with firing gear 28 and release lever 29.

I claim:

1. In a breech mechanism for holding a cartridge in firing position in ordnance of the type including a breech-block adapted to be moved away from firing to loading position, a socket member having a tapered wall serving as a seat, a cartridge holder including a pair of companion segments of arcuate contour forming with each other a ring-like body having a tapered surface conforming to and seating on said tapered wall, each of said segments including a pair of arcuate flanges spaced from each other and extending inwardly toward the axis of said ring-like body, the flanges of one segment forming with the

flanges of the other segment a pair of concentrically disposed ring-like supporting elements extending inwardly of said ring-like body and being thereby adapted to embrace and support a cartridge in firing position.

2. In a breech mechanism for holding a cartridge in firing position in ordnance of the type including a breech-block adapted to be moved away from firing to loading position, a socket member having a tapered wall serving as a seat, a cartridge holder including a pair of companion segments of arcuate contour forming with each other a ring-like body having a tapered surface conforming to and seating on said tapered wall, each of said segments including a pair of arcuate flanges spaced from each other and extending inwardly toward the axis of said ring-like body, the flanges of one segment forming with the flanges of the other segment a pair of concentrically disposed ring-like supporting elements extending inwardly of said body and being thereby adapted to embrace and support a cartridge in firing position, one of said segments being secured to said breech-block and the other of said segments being displaceable with respect to its companion segment and with respect to said breech-block upon movement of that block to loading position.

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